

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (*Currently Amended*) A magnetic recording medium comprising[[,]] : ~~on-a substrate~~, a multi-layer on a substrate, the multi-layer including:

a magnetic recording layer, and

a high-magnetostriction layer having magnetostriction larger than that of the magnetic recording layer,

wherein the high-magnetostriction layer has a magnetrostriction constant larger than 5×10^{-5} .

2. (*Original*) A medium according to claim 1, wherein the magnetic recording layer is a perpendicular magnetic recording layer having perpendicular magnetic anisotropy.

3. (*Original*) A medium according to claim 2, further comprising a soft magnetic layer between the substrate and the multi-layer, wherein the multi-layer further includes, on a substrate side thereof, a low-elasticity layer having a Young's modulus lower than that of the soft magnetic layer.

4. (*Cancelled*).

5. (*Original*) A medium according to claim 1, wherein a saturation magnetic field of the high-magnetostriction layer is larger than that of the magnetic recording layer.

6. (*Original*) A medium according to claim 1, wherein the high-magnetostriction layer includes a combination of a high-magnetostriction film and a

high-saturation-magnetic-filed film having a saturation magnetic field larger than that of the magnetic recording layer.

7. (*Original*) A medium according to claim 1, wherein the high-magnetostriction layer includes at least one member selected from the group consisting of RFe₂ (R is a rare earth element), TbFe₂, ErFe₂, Sm_xDy_{1-x}Fe₂, Tb_xDy_{1-x}Fe₂, an Fe/Pt stacked film, and a Co/Pd stacked film.

8. (*Original*) A medium according to claim 1, wherein the magnetic recording layer contains at least one of cobalt and iron, at least one of platinum and palladium, and at least one of chromium and oxygen.

9. (*Currently Amended*) A magnetic recording/reproducing apparatus comprising:

a recording medium which comprises, on a substrate, a multi-layer that includes: including

a magnetic recording layer, and

a high-magnetostriction layer having magnetostriction larger than that of the magnetic recording layer, and a recording/reproducing head,

wherein the high-magnetostriction layer has a magnetostriction constant larger than 5 x 10⁻⁵.

10. (*Original*) An apparatus according to claim 9, wherein the recording/reproducing head is a single pole recording head.

11. (*Original*) An apparatus according to claim 9, wherein the magnetic recording layer is a perpendicular magnetic recording layer having perpendicular magnetic anisotropy.

12. (*Original*) An apparatus according to claim 11, further comprising a soft magnetic layer between the substrate and the multi-layer, wherein the multi-layer

further includes, on a substrate side thereof, a low-elasticity layer having a Young's modulus lower than that of the soft magnetic layer.

13. (*Cancelled*).

14. (*Original*) An apparatus according to claim 9, wherein a saturation magnetic field of the high-magnetostriction layer is larger than that of the magnetic recording layer.

15. (*Original*) An apparatus according to claim 9, wherein the high-magnetostriction layer includes a combination of a high-magnetostriction film and a high-saturation-magnetic-field film having a saturation magnetic filed larger than that of the magnetic recording layer.

16. (*Original*) An apparatus according to claim 9, wherein the high-magnetostriction layer includes at least one member selected from the group consisting of RFe₂ (R is a rare earth element), TbFe₂, ErFe₂, Sm_xDy_{1-x}Fe₂, Tb_xDy_{1-x}Fe₂, an Fe/Pt stacked film, and a Co/Pd stacked film.

17. (*Original*) An apparatus according to claim 9, wherein the magnetic recording layer contains at least one of cobalt and iron, at least one of platinum and palladium, and at least one of chromium and oxygen.

18. (*New*) A magnetic recording medium comprising:

a multi-layer on a substrate, the multi-layer including:

 a magnetic recording layer, and

 a high-magnetostriction layer having magnetostriction larger than that of the magnetic recording layer,

wherein the high-magnetostriction layer includes a combination of a high-magnetostriction film and a high-saturation-magnetic-filed film having a saturation magnetic field larger than that of the magnetic recording layer.

19. (*New*) A magnetic recording/reproducing apparatus, comprising:
a recording medium which comprises, on a substrate, a multi-layer that includes:

a magnetic recording layer, and
a high-magnetostriction layer having magnetostriction larger than that of the magnetic recording layer, and a recording/reproducing head,

wherein the high-magnetostriction layer includes a combination of a high-magnetostriction film and a high-saturation-magnetic-field film having a saturation magnetic filed larger than that of the magnetic recording layer.